

DEIS Scope

Draft Scope of the Draft Environmental Impact Statement
to be prepared by Stony Creek Energy LLC for the

Stony Creek Wind Farm

A project to be reviewed in accordance with the regulations of the
New York State Environmental Review Act by the

**Town Board of the Town of Orangeville,
Wyoming County, New York**

November 10, 2009

INTRODUCTION

This document defines the scope of information to be included in the Draft Environmental Impact Statement ("DEIS") to be prepared in accordance with the State Environmental Quality Review Act ("SEQRA") Environmental Conservation Law ECL § 8-0101 et seq.; 6 NYCRR Part 617.

Project Description

Stony Creek Energy LLC ("Stony Creek"), a subsidiary of Invenergy Wind North America LLC, ("Invenergy") proposes to construct the Stony Creek Wind Farm, a wind-powered electric generating facility in the Town of Orangeville, Wyoming County, New York (the "project"). The project will consist of the installation and operation of up to 59 wind turbine generators ("WTG") for the purpose of generating electricity for distribution through the New York power grid.

The project, which is subject to review under the SEQRA regulations, will include the installation and operation of up to 59 wind turbine generators, an electrical collection system ("ECS") and related support facilities. For the purposes of evaluation under SEQRA, the project's maximum potential impact will be evaluated to ensure a thorough assessment in the DEIS.

Specifically the project includes;

- Construction and operation of up to 59 WTG. The project will use the General Electric 1.5xle, or equivalent, wind turbine generators.
- Construction of a 34.5 KV electrical collection system consisting of buried cables that will connect all WTG and deliver electricity to an electrical substation.
- Construction of a new electrical substation on Centerline Road where the project will interconnect to an existing transmission line owned by New York State Electric and Gas ("NYSEG").
- Construction of gravel access roads to allow vehicular access to the WTG during project construction and operation.
- Construction of an Operations and Maintenance ("O&M") facility for project offices, garages, workspace and storage area for parts, tools and materials.
- One 80 meter (262 foot) permanent meteorological tower.
- One concrete batch plant (if required).

Figure 1 shows the project layout based on the Special Use Permit ("SUP") application submitted to the Town of Orangeville pursuant to Town of Orangeville Local Law 1-2009.

The layout depicted in Figure 1 is the most likely project layout based on conditions known at the time of this DEIS Scope. Changes to the project Layout may be required to accommodate SEQRA mitigation measures and other conditions. However, if alternative layouts are deemed feasible and economically viable, those alternatives will also be assessed in the DEIS.

SEQRA Process

On October 2, 2009, the Town Board of the Town of Orangeville ("Town Board") received an application for a SUP approval and SEQRA Environmental Assessment Form ("EAF") from Stony Creek for development of the Project.

At a regularly-scheduled Town Board meeting on October 8, 2009, the Town Board accepted the application and voted to issue a notice of intent to act as lead agency and to circulate this notice to other potentially involved agencies.

Prior to acceptance of this DEIS Scope, the Town Board voted (i) to act as Lead Agency, (ii) to declare the project a Type I Action under SEQRA, and (iii) to declare that the project may have the potential for a significant environmental impact and, that as such, (through a Positive Declaration) a Draft Environmental Impact Statement (DEIS) must be prepared.

Additional steps in the SEQRA process are anticipated to include the following:

- Preparation of a DEIS by the project sponsor.
- Acceptance of the DEIS as complete by the Lead Agency, accompanied by the Lead Agency (i) filing of a notice of completion, (ii) filing a notice of public hearing, and (iii) setting a comment period.
- Conducting a public hearing on the DEIS (must be held at least 14 days after the public notice is published).
- Completing a comment period of a minimum of 30 days (which may include time before and after the date of the public hearing).
- Preparing a Final EIS ("FEIS) that address substantive/relevant comments.
- Issuance of the FEIS by the Lead Agency, accompanied by the Lead Agency filing a notice of completion of FEIS.
- Completing a minimum 10-day public consideration period.
- Issuance of Findings Statement by the Lead Agency (after which the Lead Agency may finalize its decision on the permit application before it).
- Issuance of Findings Statements by other involved agencies (after which the other involved agencies may finalize the decisions on any applications before their respective agencies).

DEIS CONTENT

The DEIS will be prepared to meet the content and format requirements outlined in 6 NYCRR §617.9. The remainder of this document is a listing of the sections to be included in the DEIS and the items to be included in each section.

For purposes of this DEIS Scope, the terms "project" or "Stony Creek Wind Farm" shall mean all components of the proposed Stony Creek Wind Farm including, but not necessarily limited to installation and operation of up to 59 wind turbines and the associated ECS, a substation, access roads, parking area, operations and maintenance facilities, and a permanent meteorological tower. The term "Project Area" shall mean the geographical area shown inside the red boundary line in Figure 1 that encompasses the project including all alternative locations for any component of the Stony Creek Wind Farm.

1.0 PROJECT DESCRIPTION

1.1 Project Purpose, Needs and Benefits

This section of the DEIS will discuss:

- The project sponsor's goals for the project.
- The project's expected electric power generation and the need and market for this electricity. This will include the nameplate capacity (the maximum output from 59 wind turbines), the capacity factor anticipated and the total anticipated annual production.
- New York State and national policies and goals regarding wind energy.
- The existing power grid in the region and its current capacity, as well as regulations governing its expansion.
- Physical interconnection to the power grid, the power market, and anticipated impacts of the project on the market.
- The amount of fossil fuel plant emissions that will be avoided because of the operation of the project. This section will also compare the environmental life cycle impacts from wind energy with other electricity sources.

- The expected economic benefits of the project due to increased jobs, increased local economic activity, landowner payments, taxes, Payments in Lieu of Taxes (“PILOT”) and other payments.

1.2 General Description

This DEIS section will describe:

- Topography, existing land uses, boundaries, aerial photos and maps of the Project Area.
- Total area to be physically impacted by the project, both permanently and temporarily during project construction.
- The project layout, described using one or more project layout maps that portray proposed locations of turbines, access roads, cabling, substation and related facilities, parking areas, O&M facilities, and a permanent meteorological tower. Project components will be shown relative to the locations of existing residences (identified as participating or non-participating), public buildings, existing electric lines, property lines, and public roads. Any plans for new aboveground electrical cables will be clearly identified.
- Wind turbine information, including drawings and specifications for wind turbine model(s) most likely to be used for the project (General Electric 1.5xle, or equivalent), including information on the turbine dimensions and noise emission characteristics.
- Dimensions of the electric substation, the voltage of the electric collection system, and other information on the electric interconnection facilities.
- Typical specifications and drawing(s) for anticipated wind turbine foundations, access roads, and the ECS.
- Recommendations and requirements of the Federal Aviation Administration (“FAA”) on aviation obstruction lights for wind turbines and the lighting plan that Stony Creek proposes for the project. Lighting plan discussions will address the proposed number of turbines to be lit and lighting equipment to be used, as specified by the FAA.

1.3 Project Design

This section will include discussions on the factors affecting Stony Creek’s selection of the project location and the location of proposed project components. Siting factors that led to the specific turbine and component layout such as turbine spacing and/or orientation, site constraints (setback requirements, avoidance of wetlands, landowner preference, etc.), access road and ECS considerations, and avoidance of identified adverse environmental impacts will be discussed. This discussion will be used as a basis for reasonable alternatives.

1.4 Construction

This DEIS section will describe the following, including figures as necessary:

- Anticipated schedule for project construction, including expected starting and ending dates.
- Activities involved in each aspect of project construction, including
 - Construction of wind turbine foundations, including a discussion of whether blasting or dewatering will be required to construct wind turbine foundations (note: impacts and mitigation measures for any blasting will be addressed in DEIS Section 3).
 - Construction of access roads.
 - Installation of the ECS.
 - Construction of the electric substation.
 - Erection of wind turbines.
 - Commissioning and testing.

- Typical clearing and grading limits for all components including individual WTG sites, temporary and permanent access roads, electrical collection lines, O&M facilities and substation. The DEIS shall include maps depicting the areas anticipated to be impacted during project construction, including equipment staging areas, parking areas, crane pads, and trenching area.

Discussions in this section shall also address the following issues related to project construction:

- The need for a concrete batch plant, if any, and the size and general operational considerations of a batch plant.
- Sources of sand and aggregate for the foundations and access roads.
- Typical culverts to be used where access roads must cross a stream or wetland.
- Plans to transport wind turbine components, materials, and construction equipment to the site and within the Project Area.
- Construction workers' access and parking.
- Fuel and/or chemicals to be used or stored onsite, if any, and a spill response plan if applicable.
- Measures to be employed to properly dispose of solid and sanitary waste.
- Measures planned for control of construction-related dust.
- Development of a draft Storm Water Pollution Protection Plan ("SWPPP"), including an Erosion and Sediment Control Plan in compliance with NYS Phase II requirements.
- Measures to minimize impact to existing agricultural activities, including a discussion of preserving and replacing topsoil in construction areas.
- An environmental monitoring plan that provides for an independent monitor to oversee the various mitigation activities and best management practices identified during the environmental review.

1.5 Operation and Maintenance

This DEIS section will describe:

- The general operation of the project, including the estimated number of hours per day and under what conditions the project will operate.
- The estimated number of employees required to operate the project and what their duties will be.
- The useful life of the project.
- Routine maintenance and required equipment.
- Storage and use of any road materials, including the use of sand.
- Fire protection features proposed for the turbines, transformers, and substation.
- Security measures to be maintained during project construction and operation.

1.6 Required Permits, Approval Requirements, and SEQRA Chronology

This DEIS section will list all known and anticipated permits and approvals required from Federal, State and local authorities, including a description of the approval being sought, the current status of the application and, if applicable, the expected dates of permit acquisition and expiration. This discussion will include an explanation of the Lead Agency's role in the process as well as that of involved agencies. A record of consultation with State and Federal Agencies will also be included, including how the SEQRA processes will be coordinated, and how Section 106 historic preservation requirements will be met.

1.7 Project Sponsor

This DEIS section will describe experience and organization of the project sponsor and of the expected owners and operators of the project after construction is completed.

2.0 GENERAL ENVIRONMENTAL SETTING

This DEIS section will present the general environmental setting, addressing existing conditions and providing baseline information, including:

- Topographical features, geological features and landforms of the region and the Project Area.
- Requirements of the Town of Orangeville Zoning Code approved by the Town on September 23, 2009.
- Current status of land use plan(s) for the Town, including the recently adopted Town of Orangeville Comprehensive Plan as incorporated into Article XIII of the zoning code (the “Town Comprehensive Plan”).
- General land use in the Project Area.
- Short and long term development plans of adjacent Towns and their implications for the project.

3.0 RESOURCE CHARACTERIZATION, IMPACT ASSESSMENT, AND MITIGATION

The DEIS will include a discussion and analysis of all potential impacts organized into the subsections below. For each type of potential adverse impact the DEIS will present the following:

- A characterization of existing conditions to place the potential impact in context.
- An assessment of the impact, including its likelihood of occurring and its severity.
- An assessment of the impact’s significance.
- Proposed mitigation measures to reduce the effect of the impact. As required by SEQRA, mitigation costs and practicability will be weighed.
- A description of adverse impacts that cannot be avoided or adequately mitigated.
- Any irreversible and irretrievable commitment of resources, as required by SEQRA.

References will be provided for the information in each section. The DEIS will emphasize use of information from New York State government agencies, peer-reviewed professional journals, actual field studies in the Project Area, and available information from similar wind projects.

3.1 Topography, Geology and Soils

Characterization

The DEIS will describe and characterize the topography, soils and geology in the Project Area. The characterization use information from aerial photos, the New York State Museum, the New York State Geologic Survey, the United State Geological Survey, the Wyoming County Soil Conservation Service and existing studies in the area, including data readily available for the Town of Orangeville or from design and construction of wind turbine foundations and recently constructed in Wyoming County. Based on that information, an assessment of the typical proposed foundation design and excavation technologies (including any need for blasting) will be included.

Specific impacts and mitigation measures are addressed in the sections on Land and Land Use, Agricultural Impacts, Water Resources, and Public Safety.

Impacts

The DEIS will assess the impacts on the areas to be disturbed during construction, including those areas on steep slopes and hillsides.

Mitigation

The DEIS will discuss potential mitigation measures, including use of existing farm or logging roads for access roads, and stockpiling, reuse and restoration of soils.

3.2 Land and Land UseCharacterization

The DEIS will describe existing landforms and land uses in the Project Area. Land use will be characterized using available GIS data, aerial photography, and field observations. Regulatory floodplains will be mapped. The rural character of the area will be discussed along with the goals stated for the area in the Town Comprehensive Plan.

Impacts

The DEIS will assess impacts on:

- Areas expected to be permanently taken out of use for project operations, including areas to be used for wind turbine sites, access roads and support operations.
- Areas expected to be temporarily disturbed during construction.
- 100 and 500 year floodplains.
- Steep slopes (greater than 15%).
- Existing land use patterns, including possible impacts on future residential development and recreational opportunities.
- Compliance with the Town Comprehensive Plan.

Mitigation

The DEIS will discuss potential mitigation measures, including design to avoid construction within regulatory floodplains, and removal of temporary facilities required for project construction.

3.3 Agricultural ResourcesCharacterization

This DEIS section will describe and map existing agricultural land uses and agricultural districts. The DEIS will present relevant information from the U.S. Department of Agriculture (USDA) Soil Survey for Wyoming County.

Impacts

The DEIS will discuss potential project impacts on:

- Access to farming fields.
- Soil compaction and soil mixing.
- Temporary construction related erosion.
- Long term topsoil erosion.
- Subsurface agricultural drainage systems.

Mitigation

The DEIS will discuss the following possible mitigation measures:

- Location of roads and wind turbines to minimize permanent disturbances to normal farming operations.
- Locating access roads along field edges where possible.
- Measures to minimizing the need for cut and fill.
- Construction practices to minimize soil compaction, loss of topsoil, and mixture of topsoil and subsoil. Measures may include stockpiling of topsoil and re-grading of topsoil to original depth.
- Post-construction measures to restore agricultural fields, including soil de-compaction and restoration of drainage patterns.
- Minimization of disturbance to subsurface drainage systems and mitigation of any such disturbance.
- Measures to ensure good communication between the project owner, landowners, and the New York State Department of Agriculture and Markets (“NYSDAM”) concerning the location of windpower facilities.

3.4 Water Resources

3.4.1 Surface Waters

Characterization

The DEIS will identify and describe streams and surface waters in the Project Area, including description of their uses and classifications.

Impacts

The DEIS will assess the following impacts:

- Potential impacts to the Attica Reservoir.
- Potential permanent impacts on water quality from crossings, disturbances or alterations of streams and surface waters.
- Potential temporary impacts to streams and surface waters from construction activities that may result in erosion, sedimentation or spills.
- Crossing of any NYS protected streams with access roads and electric lines.
- Potential impacts to any streams regulated by the U.S. Army Corps of Engineers.

Mitigation

The DEIS will assess potential mitigation measures, including:

- Methods to prevent degradation to water and to meet permit requirements of Article 15 (Protected Streams) for stream crossings or disturbances to stream beds or banks related to access roads and electric lines.
- Methods to avoid or minimize impacts on streams regulated by the U.S. Army Corps of Engineers (ACOE).
- Stream crossings via directional boring to minimize clearing along stream banks.
- Avoiding ground disturbance within 50 feet of NYS protected streams.
- Avoiding crossing of streams with heavy equipment.

- Measures the project could use to meet the conditions of storm water permits issued by the New York State Department of Conservation (NYSDEC), including:
- Obtaining storm water permit for construction activities.
 - Development of a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the State Pollutant Discharge Elimination System (SPDES) General Permit 08-01 for Construction Activities, NYSDEC Technical Guidance “Standards and Specifications for Erosion and Sediment Control” (August 2005), and NYSDEC Technical Guidance “Stormwater Management Design Manual”.
 - Procurement of other permits required by General Permit 08-01.
 - Obtaining a SPDES General Permit for the operational phase of the project.

3.4.2 **Wetlands**

Characterization

The DEIS will describe wetlands in the Project Area and will present:

- Boundaries of wetlands in the Project Area that are found on maps from state and federal agencies.
- Boundaries of wetlands in areas where construction impacts are expected to occur (the “Ground Disturbance Area”), as determined from field reconnaissance by experienced biologists to identify any additional wetlands that are not shown on available state and federal maps.
- Descriptions of wetlands in the Ground Disturbance Area, including location, size, and vegetative cover type.

Impacts

The DEIS will assess the following impacts:

- Unavoidable impacts to wetlands that could occur from construction and operation of the project.
- Erosion during construction activities that could result in silt-laden runoff entering Project Area streams and wetlands.
- Permanent loss of wetland area that could occur from project construction and operation.
- Accidental spills and likelihood of impacting adjacent wetlands.

Mitigation

The DEIS will describe the following potential mitigation measures:

- Siting of wind turbines, access roads, and ECS to avoid wetlands.
- Avoiding trenching or use of heavy equipment in streambeds.
- Restoring temporarily impacted wetlands to pre-construction conditions.
- Implementing a SWPPP to minimize impacts to wetlands during construction.
- Replacing wetland areas lost due to construction, as required by state or federal law.
- Implementing a spill prevention and response plan.
- Measures that will be taken to comply with permitting requirements of the ACOE and NYSDEC.

3.4.3 **Groundwater**

Characterization

The DEIS will describe groundwater resources in the Project Area, including:

- Prevalence of use of groundwater for drinking water.
- Data available from the New York State Museum, the New York State Geologic Survey, the United State Geological Survey, the Wyoming County Soil Conservation Service, and the Genesee/Finger Lakes Wellhead Protection Study.
- Quality of existing groundwater for drinking water use as determined from publicly and readily available records and information available from Wyoming County Soil Conservation Service and the Town of Orangeville.

Impacts

The DEIS will assess impacts including, but not limited to:

- Potential permanent impacts to groundwater (flow, recharge, and quality) resulting from location of turbine foundations, access roads and ECS.
- Potential temporary impacts to groundwater (flow, recharge and quality) resulting from short-term construction activities including potential blasting and dewatering activities.
- If ground water pumping is required for construction activities, the DEIS will evaluate its impact on near-by wells.
- Potential impacts to quality and quantity of private water supplies.

Note: Potential impacts to the Attica reservoir will be discussed in the DEIS section on surface waters.

Mitigation

The DEIS will evaluate potential mitigation measures that may include:

- Avoiding excavation in zones of influence of drinking water wells.
- Methods that could be used to monitor and prevent groundwater impacts if blasting and dewatering are deemed to be necessary during construction.

3.5 Wildlife and Habitat

This DEIS section will address potential impacts to wildlife using or migrating through the Project Area, with special attention given to (i) State or Federal listed rare, threatened, or endangered plant or animal species, and given to (ii) avian and bat species due to potential for collision with wind turbines.

The New York Natural Heritage Program, NYS Department of Environmental Conservation – Division of Fish, Wildlife and Marine Resources, are considered primary resource agencies for this work. The U.S. Fish and Wildlife Service (“USFWS”) will also be consulted in its role as an interested agency.

3.5.1 Plant Species

Characterization

The DEIS will describe plant species in the Project Area based on field surveys and available maps. Descriptions will identify the dominant plant species in each plant community.

Impacts

The DEIS will assess the area, in acres, of each plant community that is expected to be impacted by project construction. In addition, the DEIS will describe the degree of impact (from minimal to total removal) in each type of area.

Mitigation

The DEIS will evaluate potential mitigation measures that may include timing of construction activities, alternative project designs, and restoration plans for temporarily disturbed areas that include planting native species to support natural ecosystems functions.

3.5.2 Animal SpeciesCharacterization

This DEIS section will list all mammal, reptile, and amphibian species likely to be present on the site, based on the habitats observed and geographic distribution maps.

Impacts

The DEIS will assess any temporary displacement or permanent loss of mammal, reptile and amphibian species anticipated during project construction or operation due to habitat loss, fragmentation, or degradation.

Mitigation

The DEIS will evaluate potential mitigation measures that may include timing of construction activities and alternative project designs.

3.5.3 Avian SpeciesCharacterization

Factors influencing the magnitude of impacts to migrating birds include: (i) the presence of a migration corridor resulting from geographic and landscape features; (ii) wind speed and direction relative to the migration route; (iii) weather conditions, including cloud cover, fog, rain pressure fronts, etc.; and (iv) migratory behaviors of the bird species present in the project vicinity. Resident birds may be impacted depending on whether habitats in the Project Area are important for breeding and foraging for food.

The DEIS will characterize avian use of the Project Area and potential impacts in accordance with the most recent NYSDEC guidelines regarding bird and bat studies for commercial wind energy projects. The DEIS text will summarize and analyze the results of studies performed by the project sponsor to assess potential avian impacts. Reports on each of the studies will be provided as DEIS appendices. Avian studies to be discussed in the DEIS including:

- A review of known information on birds, bats, and other regulated natural resources in the vicinity of the Project Area, including information from wind projects proposed, under construction, or operating in the local area.
- An owl survey to assess use of the Project Area by owls and other raptors in winter months.
- A breeding bird survey to assess use of the Project Area by birds during the spring breeding season, including searches of those portions of the Project Area potentially containing rare species.
- Raptor surveys to assess raptor activity in the Project Area during the primary migration seasons in the Spring and Fall.
- An assessment of habitat in the Project Area that could be suitable for bat roosting, grassland birds, and birds that prefer wetland areas. Habitats in the Project Area will be identified using aerial photographs, topographic maps, NYSDEC-designated Critical Environmental Areas, Audubon-designated important bird areas, and field surveys.

The DEIS characterization of avian use of the Project Area will include discussions of:

- The potential for listed, endangered or threatened avian species to use the Project Area.
- The seasonal occurrence of birds migrating through the Project Area.
- The migration activity of birds through the Project Area.

- Influence of climatic conditions on migratory activity.

Impacts

The DEIS will assess impacts including:

- Potential impact of project operation on avian migration activities, considering observed species; numbers; flight patterns (including altitude); climatic conditions; regional geography; data from other studies (including mortality rates due to collisions at similar installations); data from nearby observing stations; turbine geometry, operating characteristics, and maximum tip height.
- Temporary displacement or permanent loss of migrating and locally breeding species anticipated during construction and operation due to habitat loss, fragmentation, or degradation.

Mitigation

The DEIS will discuss potential mitigation measures including:

- Surveys of breeding bird species during construction.
- Minimizing disturbance of mature forests, including locating access roads along existing logging trails and co-locating ECS along access roads when access roads must pass through woodlands
- Post-construction surveys.

3.5.4 Bats

Characterization

The DEIS will characterize bat use of the Project Area and potential impacts in accordance with the most recent NYSDEC guidelines regarding bird and bat studies for commercial wind energy projects. The DEIS text will summarize and analyze the results of acoustic studies performed by the project sponsor in the spring, summer, and fall to assess potential impacts to bats. Reports on each of the studies will be provided as DEIS appendices. As part of the characterization of the area for potential bat use, the DEIS will also consider available habitat in the area for threatened and endangered bats.

Impacts

The DEIS will use data collected in the Project Area and results of pre-construction and post-construction studies at similar projects to assess impacts to bats. Discussion of impacts shall include:

- Potential impact of project operation on bat migration activities, considering observed species; numbers; flight patterns (including altitude); climatic conditions; regional geography; data from other studies (including mortality rates due to collisions at similar installations); turbine geometry, operating characteristics, and maximum tip height.
- Any temporary displacement or permanent loss of migrating and locally breeding species anticipated during construction and operation due to habitat loss, fragmentation, or degradation.

Mitigation

The DEIS will discuss the following potential mitigation measures:

- Modification to turbine locations.
- Minimizing disturbance of mature forests, including locating access roads along existing logging trails and co-locating ECS along access roads when access roads must pass through woodlands
- Post-construction surveys to understand times of greatest risk to bats in the Project Area, if any.

3.5.5 Rare, Threatened and Endangered Species

Characterization

The DEIS will include an assessment of impacts to rare, threatened and endangered species likely to exist in the Project Area. Likely presence of any such species will be determined by evaluating the Project Area for suitable habitat and by consulting with the USFWS, the NY Natural Heritage Program and the NYSDEC Endangered Species Unit.

Impacts

The DEIS will assess impacts including, but not limited to temporary displacement or permanent loss of rare, threatened and endangered species anticipated during project construction or operation due to habitat loss, fragmentation, or degradation.

Mitigation

The DEIS will identify potential mitigation measures including appropriately timing construction activities and creating a project layout that avoids, to the extent practical, impacting critical habitat for rare, threatened or endangered species.

3.6 **Noise**

Characterization

This section of the DEIS will characterize the existing noise conditions in the Project Area. The characterization shall include discussion and presentation of ambient noise measurements that can be used to establish a baseline for assessing possible noise impacts of the project. Ambient noise measurements shall be performed by an acoustical engineer with experience in community noise assessments. The measurements shall be performed as follows:

- An experienced noise expert will tour the Project Area to identify the local land uses and noise sensitive receptor locations within one mile of the planned turbine locations. As part of this site review, he or she shall observe the existing sound sources and acoustic environments in the community
- The noise expert shall deploy noise monitoring equipment to collect continuous measurements of sound levels at representative community locations for a period of a week or more, including during conditions when wind speeds are near cut-in speeds for the proposed wind turbines.
- The noise expert will perform manual monitoring of low frequency and A-weighted sound levels throughout the Project Area using a handheld sound monitoring equipment. The noise expert shall perform measurements in the vicinities of the proposed turbines and at other representative community locations during daytime and nighttime periods.
- Ambient sound measurements will be made with instruments that meet the Type 1 provisions in ANSI S1.4 or IEC 651 and the provisions in ANSI S1.11 or IEC 225.

Results of the ambient noise survey will be documented in a sound study prepared by the noise expert and which will be included as a DEIS appendix. Results of the ambient survey will be summarized in the DEIS text.

Impacts

The DEIS will characterize noise impacts of the project in accordance with the requirements of the Town of Orangeville Zoning Code and where appropriate, the NYSDEC Program Policy "Assessing and Mitigating Noise Impacts" (DEP-00-1). Noise impacts will be assessed by a noise expert using characteristics of the proposed turbine and industry accepted computer models. Results will be documented in the sound study prepared by the noise expert and summarized in the DEIS text. The DEIS noise impact assessment will include:

- A description of the project's noise producing features, both during project construction and project operation.
- Turbine manufacturer's noise specifications and available field testing data for all audible and low frequency sounds, infrasound, pure tone and repetitive/impulse sound characteristics.
- A summary of regulatory guidance, including Town of Orangeville Zoning Code (2009) which requires that sound levels from the operation of the any part of the wind turbine:

... shall not exceed L10-50 dBA when measured at any offsite dwelling, school, hospital, church, public park or public library, unless the project developer has obtained a noise easement.

- Map(s) of the Project Area showing houses and expected project noise levels during construction. This map will present results of a computer analysis of construction noise levels assuming a combined mix of construction equipment at each wind turbine site.
- Map(s) of the Project Area showing houses and expected project noise levels during project operation. This map will present results of a computer analysis of cumulative noise levels from all turbines operating at maximum noise levels.
- Noise levels associated with blasting; if it is determined that blasting will be necessary.
- A discussion of the potential impacts of low-frequency noise from project components.
- An assessment of the potential in the Project Area for greater noise impacts in locations that are relatively far from wind turbines but shielded from winds that typically result in high ambient noise levels.
- Compliance with the noise standard(s) established in the Town of Orangeville Zoning Code and/or NYSDEC guidance document DEP-00-01.

Mitigation

The DEIS will discuss the following mitigation measures:

- Working with contractors to minimize the construction noise through use of best management practices such as turning off engines when not in use, maintaining equipment in good working order and using adequate engine covers and mufflers.
- Restricting hours of construction.
- Locating turbines at sufficient distances from existing residences

3.7 Shadow Flicker

Characterization

The DEIS will include a separate report on expected shadow flicker from the proposed turbines. The shadow study will be provided as a DEIS appendix and will be summarized in the DEIS text. The shadow analysis and discussions will include:

- A map showing the expected total number of hours per year that shadows could be cast from the wind turbines on various areas in the Project Area. In addition to shadow hours, the map will show locations of wind turbines and houses, schools, hospitals, churches, and libraries located within three-quarter (3/4) mile of any proposed WTG.
- Tables or figures showing the typical times (minutes per day, days of the year) when shadows could fall at representative houses.
- A detailed discussion of the assumptions and methods used to calculate the number of shadow hours at various locations in the Project Area.

Impacts

The DEIS shall address potential health impacts from WTG shadow flicker. The DEIS discussion shall rely on, to the extent available, information from professional, peer-reviewed journals, including any available information on dose-response relationship.

Mitigation

The DEIS will address potential mitigation measures including:

- Adjusting proposed locations of wind turbines.
- Providing shutters or blinds to affected residents.
- Planting trees for affected residents.

3.8 Visual Resources

The DEIS will include a visual impact assessment report (“VIA”) prepared by a qualified professional in accordance with the NYSDEC Policy Guide, “Assessing and Mitigating Visual Impacts” (DEP-00-2). As described in the Characterization, Impacts, and Mitigation sections below, the VIA shall include “before and after” photos, a viewshed map showing project visibility with seven (7) miles of the proposed turbines, and an inventory of aesthetic resources within seven (7) miles of the proposed turbines. The VIA shall be separate report provided as a DEIS appendix, and the DEIS text shall summarize key conclusions of the VIA.

Characterization

Characterization of visual resources in the DEIS shall include:

- An inventory of aesthetic resources within 7 miles of any proposed wind turbine. The list shall include: churches, parks, recreation facilities, schools, hamlets, properties listed in the National or State Register of Historic Places, and places of statewide significance as defined in the NYSDEC Policy Guide.
- Information on each aesthetic resource regarding type of use, distance to turbines, number observers, and type of potential impact.

Impacts

The DEIS will provide the following materials to facilitate an assessment of visual impacts:

- A zone of visual influence (“ZVI”) map showing the number of turbines that would be visible from all areas within seven (7) miles of a proposed wind turbine. The ZVI map will consider the effects of terrain, turbine height, existing vegetation, and turbine location. A separate ZVI map will also be prepared showing turbine visibility conservatively ignoring the screening affects of trees and other vegetation. Both ZVI maps will consider a turbine as “visible” if only a fraction of one blade is visible. The VIA shall describing the exact methods and equipment used to prepare the ZVI maps.
- “Before and after” photosimulations from the following ten (10) locations selected to cover the range of views that would be typical, that would have the most observers, and that may be considered to be historically or culturally sensitive. The VIA shall describing the exact methods and equipment used to prepare the simulations.
 - The Rancher’s Choice restaurant, located at the intersection of Route 20A and Orangeville Center Road.
 - Route 20A, just east of the hamlet of Varysburg.
 - Route 20A, near Glosser’s produce stand.
 - Route 20A, near the intersection with Blackhouse Road.
 - The hamlet of Johnsonburg.
 - Route 238, in Attica near the town line with Orangeville.

- Exchange Street, near the intersection with Glor Road.
- Three other locations to be selected after review of the area by the professional preparing the VIA.
- A discussion of how distance affects the apparent size and degree of contrast between an object and its surrounding. This will be divided into three categories – foreground (0 to ½ mile), middleground (½ to 3 miles) and background (3 miles to horizon).
- A discussion and analysis of impacts from aviation obstruction lights. This will include a description of obstruction lighting required by the Federal Aviation Administration and nighttime zone of visual influence map showing areas where required FAA lights might be visible in the Project Area.
- A discussion of visibility of the substation, including plans, elevations, and dimensions for the substation and associated equipment, as well as planned lighting and fencing at the substation.

Mitigation

The DEIS will assess potential mitigation measures including:

- Painting of wind turbines with an off-white color that meets FAA requirements, and is also neutral with a low-reflectivity finish.
- Use of turbines with a uniform design, color, number of blades and direction of rotation.
- Landscaping and fencing of project buildings.
- Using FAA lights with the lowest allowed intensity required for pilot safety.
- Placing the electricity collection system underground.
- Using existing farm or logging roads as access roads where possible.
- Setbacks from roads.

3.9 Roads

Characterization

The DEIS will characterize existing road conditions by providing the following information:

- Identification of Town, County, and State roads within the Project Area and their current condition.
- Identification of anticipated roads to be used during project construction.

Impacts

The DEIS will describe project road requirements and potential impacts to public roads, including:

- Road conditions and dimensions required for construction and project component transportation vehicles, e.g., pavement width, weight limits, and turning radii, etc.
- The approximate types, number, weight and dimensions of construction vehicles, including those doing heavy haul of oversized equipment.
- The primary travel routes expected to be used by construction and project component transportation vehicles.
- Improvements expected to be required to existing road systems accommodate construction vehicles (e.g., enlarged turning radii).
- A plan for documenting pre-construction road conditions and identifying and correcting construction-related road damage.
- Project activities that could affect the State highway system (e.g., cable crossings, new driveways) and how such activities will be managed in compliance with applicable NYSDOT requirements.

- Expected requirements to relocate existing overhead utility wires.
- Expected requirements to temporarily close roads or restrict traffic on roads.
- Impacts to local roads during construction, including road surface and shoulder damage, hazardous and non-hazardous substance spills, soil tracking and potential traffic congestion.
- Short-term, temporary and localized disruptions in traffic flow due to delivery of project materials, especially wind turbine components, as well as road construction, and underground cable installation.

Mitigation

The DEIS will discuss the following potential mitigation measures:

- A road agreements between the Town of Orangeville and Stony Creek that would require pre-construction inspections and return of roads to their pre-construction condition or better.
- Best management practices that would be implemented during construction to minimize spills and soil tracking.
- Scheduling of work to reduce duration and impact of traffic delays.
- Return of intersections to their pre-construction condition, if desired by the Town, County, or State agency responsible for the subject roads.

3.10 Archaeological and Historical Resources

Characterization

The DEIS will characterize the cultural resources in the Project Area, relying on the following information sources:

- Online resources and the archeological site files maintained by NYS Office of Parks, Recreation and Historic Preservation (“OPRHP”) that would indicate whether there are previously recorded archeological sites within the project’s Area of Potential Effect for archeology (“APE”).
- The OPRHP Sphinx model and site files maintained by the New York State Museum.

The cultural resources characterization will be documented in a Phase 1A Cultural Resources Assessment (CRA) report that will be provided as a DEIS appendix and summarized in the DEIS text.

Impacts

The DEIS will describe possible impacts, including:

- Construction activities that could potentially impact archaeological resources in areas identified as archeologically sensitive.
- Indirect visual impacts on existing structures that are either listed on the National Register of Historic Places (“NRHP”) or eligible for listing on the NRHP.

Mitigation

The DEIS will discuss the following potential mitigation measures:

- Avoidance of known archeological sites.
- Implementation of human remains discovery protocol that, in the event a previously unknown archeological resource is discovered during construction, would require all work in the area of a find to cease until representatives from the NYS OPRHP and a cultural resources expert are consulted, and a determination is made regarding the appropriate action.

- Funding of off-set projects that could be implemented to offset impacts to historic resources in the event that direct mitigations are not possible.

3.11 Microwave Beam Interference and Electromagnetic Interference

Characterization

The DEIS will use information from federal databases to identify and map microwave beams that cross the Project Area. This section of the DEIS will also characterize other electromagnetic uses in the Project Area, including ham radio operations, cellular telephone, television and radio reception.

Impacts

Wind turbines have the potential to interfere with microwave signals by obstructing line-of-sight microwave transmitters. They can also create interference with analog signals used some communications, such as off-air broadcast television. The DEIS will discuss potential impacts the project could have on microwave paths, cellular telephones, radio, ham radio use, and television reception.

Mitigation

The DEIS will discuss a potential mitigation measure to site turbines in order to avoid point-to-point microwave transmission paths. The DEIS will also discuss measures to minimize potential electromagnetic interference on other forms of communication discussed in the impacts section.

3.12 Socioeconomics

Characterization

The DEIS will describe the existing economic conditions and resources, including:

- School districts, police, fire departments, and emergency service providers serving the Project Area.
- Town of Orangeville tax base information.
- Services and employment, using data from the New York State Department of Labor.
- State and local tax or other financial incentives for development of wind farms.
- Commercial businesses in the Project Area.
- Local demographics.

Impacts

The DEIS will describe socioeconomic impacts, including:

- The nature and value of construction contracts expected to be available regionally and estimates of the number of people to be employed during construction of the project.
- Increased economic activity from the project during and after construction.
- Permanent employment resulting from the project.
- Estimates of total payments to be made to landowners and possible impacts of this revenue.
- Impact of tax subsidies and concessions (both State and local).
- Map(s) showing wind turbine locations by fire districts and school districts.
- Identification of affected fire departments, the amount of tax revenue likely to be collected by the fire departments from the project, and possible impacts of these taxes on the fire department budgets and taxing requirements.

- Identification of the school districts affected, the revenue expected to be received by school districts as a result of any Payment In Lieu of Taxes ("PILOT") agreements entered into by the project, and the effect of any such payments on the school budget(s) and the schools taxing requirements.
- The revenue expected to be received by Wyoming County as a result of any PILOT agreements entered into by the project, and the impact of any such payments on the County budget and the County's taxing requirements.
- The revenue expected to be received by the Town of Orangeville as a result of any PILOT and/or host community agreement entered into by the project, and the impact of any such payments on the Town of Orangeville budget and the town's taxing requirements.
- Services that the project may require of the fire departments, school districts, county, and town.
- Services at substation and/or O&M facility's for septic, sewer, lighting and solid waste disposal.

Mitigation

It is anticipated that the project will result in an economically net positive benefit to the Town and no mitigation for socioeconomic impacts will be necessary.

3.13 Property Values

Characterization

The DEIS will characterize property values in the area using Information from the Orangeville Town Assessor and the New York State Office of Real Property Services.

Impacts

The DEIS will assess potential impacts on property values by considering:

- Existing research and documentation from other wind farm projects.
- Impact of fall zones and setbacks on use of adjoining property.
- Impact of the project on future development of wind farms on adjacent property.
- Effects of potential revenue from the wind project on local tax rates.

Mitigation

The DEIS will address potential mitigation that may include payments to help reduce taxes and implementation of appropriate residential setbacks.

3.14 Public Safety

Characterization

The DEIS will describe and characterize the potential public safety issues listed below using information available from published professional sources with emphasis on information from New York State government agencies, peer-reviewed professional journals, field studies in the Project Area, and similar projects. Issues to be addressed in the DEIS include:

- Ice shedding.
- Tower collapse and blade drop.
- Lightning strikes.
- Construction safety.
- Fire suppression methods.

- Worker safety during operational phase.
- Use of pesticides or herbicides during construction and operation.
- Risk of damage to electric transmission facilities and gas transmission pipelines.
- Risk of electrocution or other injury from public contact with project facilities.
- Potential hazards to local aviation.

Impacts

The DEIS will assess potential impacts to the items listed above, including human health impacts.

Mitigation

The DEIS will identify potential avoidance and mitigation measures that may include:

- Use of appropriate setbacks from houses and roads.
- Redundant safety systems on wind turbine equipment.
- Adherence to Federal, State and local codes.
- Icing detectors and automatic safety shutdown systems.
- Marking of underground electric lines with above grade signage and registrations of the underground electric lines locations with the state one-call service, Dig Safely New York.
- All proposed means of preventing public access to project components (e.g., gates, fencing, signs, etc.).
- Emergency service providers available to respond to emergencies within the project site, along with the kinds of emergencies most likely to require the assistance of these personnel.
- Safety features and certification of the project WTG, including maximum wind speeds that WTG are designed to sustain.
- Adherence to NYSDEC standards for pesticide and herbicide application and neighbor notification.
- Establishment of safe separation distances from electric transmission and gas pipeline facilities.
- Establishment of procedures in a pre-construction meeting with local emergency providers.
- Review of any available local emergency preparedness plan(s) prior to construction and operation of the project.

3.15 Blasting and Seismic Issues

Characterization

The DEIS will describe:

- Known seismic character of the Project Area, including frequency and intensity of seismic events.
- Federal and State regulations relevant to design for seismic stability for all project elements.
- Relevant geotechnical information.

Impacts

The DEIS will discuss impacts related to blasting and seismic issues, including but not limited to:

- Health and safety of residents.
- Potential for property damage.

- Potential for damage to roads, wells, and other public facilities.

Mitigation

The DEIS will address potential mitigation measures that may include:

- Adherence to a project blasting plan, if needed, that is in compliance with New York State Department of Labor explosive handling regulations (12 NYCRR 39) and NYSDEC blasting/mining regulations.
- Identification of WTG fall zones.
- Design of all project elements for loading due to seismic events.

3.16 Construction Monitoring and Restoration Activities

Characterization

The DEIS will identify potential issues that would necessitate construction monitoring and restoration activities.

Impacts

The DEIS will discuss briefly issues that could arise if monitoring or restoration is insufficient.

Mitigation

The DEIS describe the procedures to be used by the project sponsor to monitor construction and to restore disturbed areas. This will include:

- A discussion of an environmental monitoring plan that will provide for an independent monitor to oversee the various environmental compliance and mitigation activities. The description will address the duties and authority (including stop-work authority) of the environmental monitor during project construction.
- A discussion of post-construction environmental restoration activities will be included, covering the following topics:
 - Re-grading and stabilization of temporary impacts to wetlands and streams, including re-establishment of wetland hydrology (if disrupted).
 - Restoration of disturbed habitat, including re-planting suitable species in wetlands, adjacent upland areas and streams.
 - Wetland mitigation projects, if any.
 - Stabilization of disturbed areas subject to New York State Pollutant Discharge Elimination System (SPDES) Stormwater General Permit.
 - Removal and proper disposal of temporary road materials.
 - Restoration of soils in agricultural areas in accordance with NYS Department of Agriculture and Markets guidelines.

3.17 Decommissioning

Characterization

The DEIS describe the expected procedure and timetable for removal of the project. This discussion will address:

- The expected operational lifetime of the project.

- A discussion of potential scenarios in which the project or individual turbines would cease operations prior to the expected operational lifetime.
- Expected procedures to decommission the project components.

Impacts

The DEIS will discuss impacts of decommissioning, including but not limited to aesthetic impacts, erosion and sedimentation impacts and public safety impacts.

Mitigation

The DEIS will discuss mitigation measures, including but not limited to:

- Removal of wind turbines, access roads, and wind turbine foundations.
- Removal of debris, re-grading and re-seeding of disturbed areas to return them to conditions existing prior to project construction.
- Development of a project “Decommissioning and Restoration Plan”.
- A decommissioning bond or other security to be held by the Town Board.

4.0 ALTERNATIVES

The DEIS will discuss and assess the benefits and impacts of various alternative projects that could be considered instead of the proposed project. For each alternative, the DEIS will assess and compare to the base project the main benefits and impacts such as energy generated, revenue to the local economy, visibility, and area impacts to wetlands, woodlands, and agricultural areas. Alternatives to be discussed in the DEIS include:

- Base case. This section will summarize the benefits and impacts of the project as proposed and as discussed in DEIS Section 3.
- No project. This alternative will assume Stony Creek’s application is denied and no wind turbines are installed.
- More turbines. This alternative will assess a project that places more turbines in the Project Area, assuming the turbines are the same general size and specification of those proposed by Stony Creek.
- Fewer turbines. This alternative will assess a project that places fewer turbines in the Project Area, assuming the turbines were the same general size and specification of those proposed by Stony Creek. This analysis will provide information to help assess the net benefits and impacts of eliminating one or more of the proposed turbines.
- Smaller turbines. This alternative will assess a project in the Project Area that used a similar number of turbines but used wind turbines that were approximately 30% smaller.
- Much smaller turbines. This alternative will assess a project that used a similar number of turbines but used wind turbines that were significantly smaller, such as the WindTamer turbine.
- Alternative energy sources. The DEIS will assess a project that used solar photovoltaic technology to generate a similar amount of energy as the proposed project is expected to generate. The DEIS will not analyze alternatives using non-renewable fuels, as this is outside one of the fundamental goals of this project, which is to generate electricity with renewable fuel.

The DEIS will not assess an alternate project location. This alternative, which is often analyzed in SEQRA reviews, would assess the impacts of locating the proposed wind farm in a completely other Town or region of New York. Such an alternative is not applicable in this case because the applicant is a private entity that and does not own or have an option on other parcels that could serve as an alternative site (6NYCRR § 617.9 (b)(5)(v)). DEIS Section 1.3 will describe the rationale for siting of the project in Orangeville.

5.0 GROWTH INDUCING ASPECTS

The DEIS will identify and describe the potential growth inducing impacts of the project with respect to improvements made to public utilities.

6.0 CUMULATIVE IMPACTS

The DEIS will identify and describe the potential cumulative impacts from the project in relation to other proposed developments in the area.

7.0 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

The DEIS will identify and discuss any adverse environmental impacts that cannot be avoided or adequately mitigated if the project is constructed.

8.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The DEIS will identify the extent to which the project will cause a loss of environmental resources, both in the immediate future and in the long-term.

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To supplement the information required in each topic section the following will be included:

- Relevant technical maps, figures and exhibits
- Project plans, specifications, or construction information
- Visual Impact Analysis
- Shadow Flicker Analysis
- Cultural Resources Investigations/Architectural Survey

- Electromagnetic Interference Study
- Noise Study
- Spill Prevention and Response Plan
- Avian and Bat Studies
- Operations & Maintenance Plan
- Overall project plan and timeline
- Decommissioning and Restoration Plan
- Post-Construction Environmental Monitoring Plan
- Storm Water Management Plan
- Complaint Resolution Plan
- Blasting Plan
- Relevant agency correspondence
- List of firms and persons responsible for both overall preparation of the DEIS and the underlying plans and other exhibits relied upon.